United States Patent [19]

Bruckert

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[54] **METHOD AND APPARATUS FOR CONVEYING A COMMUNICATION SIGNAL BETWEEN A COMMUNICATION UNIT AND A BASE SITE**

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[57] **ABSTRACT**

A communication system (100) employs a method (600) and apparatus (101) for conveying a communication signal between a communication unit (105) and a base site (101) that services a sectorized coverage area (103). The communication unit (105) transmits an uplink communication signal (113) to the base site (101). The base site (101) receives (603) the uplink communication signal (113) and determines (605) an approximate location of the communication unit (101) within a first portion (111) of a sector (108) of the sectorized coverage area (103). A downlink communication signal is then transmitted (609, 613) to the communication unit (105) based on the approximate location of the communication unit (105) using an antenna structure that produces a beamwidth (117) narrower than an angular width of the sector (108).

32 Claims, 6 Drawing Sheets

NOMINAL 120° SECTOR BOUNDRIES